



# Water Use in New Homes

## Water Efficiency Benchmarking for New Single-Family Homes

**R**educing water demand helps reduce the cost of water and wastewater facilities and helps conserve precious water resources. In order to better plan water efficiency programs, however, water managers need more information on water use patterns in new homes, for example:

- Do new homes use more or less water than existing homes?
- If there is a difference between new home and existing home water use, is it because of inherent differences in the efficiencies with which water is used, or simply because the new homes are different in size or the number of residents?
- Is it possible to use advanced technologies in new homes in order to reduce water demand?

To answer these questions and provide an empirical basis for understanding water use in the 14 million new homes that will likely be built nationally in the next 10 years, the U.S. Environmental Protection Agency (EPA) has funded a grant project that will collect data from several large water utilities across the United States.

*Water Efficiency Benchmarking for New Single Family Homes* is a nine-city research study funded by EPA to establish baseline indoor and outdoor water use patterns for new homes by collecting empirical data from billing records, surveys, and indirect measurements.

The project will also demonstrate how the use of advanced technologies can reduce new home water use compared to homes with water-using equipment that meets current standards. The study will investigate relationships between household indoor water use and key variables such as number of residents, size of home, and types of fixtures and appliances present. Outdoor water use will be quantified from total annual use, rates of application, local plant water requirements, lot size, landscape design, and type of irrigation system controller.

The study will look at "standard" new homes and "high-efficiency" new homes built to enhance water conservation. This will assist with establishment of targets for builders who wish to provide buyers with increased water efficiency options, develop specific performance criteria, and create a special designation to help consumers identify them. The study results can also enhance the efforts of states and water utilities to establish performance criteria for water use in new homes.

EPA awarded a \$350,000 grant to the Salt Lake City Water Department to coordinate the multi-city study. Each of nine study water utilities will contribute \$20,000, for a total project budget of \$530,000. EPA anticipates the study being completed in December 2008.